

MIOSHA at 30 Years

Three Decades of “Making a Difference”

By: Martha Yoder
MIOSHA Deputy Director

You may have noticed the new look of MIOSHA's logo during our 30th year: “Making a Difference for 30 Years (1975-2005).” This motto extends beyond the MIOSHA program and recognizes the significant efforts of past and current MIOSHA staff together with employers, employees, associations and organizations to make a tremendous positive difference over the past thirty years.

At thirty the MIOSHA program has grown and matured just as the profession of occupational safety and health has. We have become a more responsive and diverse program. More than ever before, the program is able to problem-solve, adapt, and implement strategies to help move Michigan toward safer, healthier work environments.

MIOSHA Created

It was a growing concern with the number

of workers' experiencing occupational injuries and illnesses during the late 1960s that first lead to the federal OSHA program and the modern state plan programs that followed. Approximately 14,000 workers were dying nationally each year on the job. Congress responded with passage of the federal Occupational Safety and Health Act in 1970. Section 18(b) of the Act provides that any state may choose “to assume” responsibility for the development and enforcement...of occupational safety and health standards.” States choosing this option must be “at least as effective as” as the federal program in adopting and applying rules and standard.

In 1975, Michigan's overall private sector injury-illness rate was 9.6. In 1978, the earliest year data is available, 115 workers died on the job from injuries that could have been prevented had MIOSHA rules been in place and implemented.

Michigan chose to address this issue as a state, continuing its heritage of striving toward safe and healthful workplaces. The Michigan Occupational Safety and Health Act, Public Act 154 of 1974 established the modern MIOSHA program. The Act became effective on January 1, 1975, for the private sector and July 1, 1975, for the public sector. An executive declaration in the Act, took a strong position on worker safety and health:

“The safety, health, and general welfare of employees are primary public concerns. The Legislature hereby declares that all employees shall be provided safe and health-

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Governor William Milliken signed the legislation that created the modern MIOSHA program. Early safety and health advocates include: Jon Vogt, Marshall Fiordelius, Jim Barrett, Irv Davis, Governor Milliken, Al Pickett, Marve Walker (front), Barry Brown, and Al Harvie.



**Michigan Department of
Labor & Economic Growth**

From the MIOsha Director's Desk

By: *Douglas J. Kalinowski*



Governor's Workplace Safety & Health Forum

Governor Jennifer Granholm has long been a strong advocate for workplace safety and health. She is committed to providing the MIOsha program with all the necessary tools to protect Michigan's working men and women. She has joined MIOsha in recognizing outstanding employers who have made safety and health an integral part of their company culture.

Having an effective program to protect worker safety and health is not a drain on business profits—it is an important part of being successful! Many employers in Michigan have figured this out. These are employers who work with their employees to “do the right thing” and “do it right.”

November 3rd, MIOsha will convene the **Governor's Workplace Safety and Health Forum**. This forum will demonstrate the commitment and results that a number of Michigan employers have found through effective safety and health systems. It will continue the Governor's focus on “Manufacturing Matters” in Michigan.

Safety & Health Benefits

Providing a safe and healthful work environment is not a burdensome cost of doing business. In fact, protecting workers' safety and health can actually enhance a company's bottom line. Employers who provide a safe and healthy work environment report not only reductions in injuries and illnesses, but also these very positive bottom line benefits:

- Lower workers' compensation costs,
- Increased productivity,
- Increased employee morale,
- Lower absenteeism, and
- Lower employee turnover.

Monies spent on workplace safety and health delivers an impressive return on investment.

■ The direct cost of workplace injuries in the U.S. was \$38.7 billion in 1998.

■ The U.S. workers' compensation losses is estimated at \$155 to \$232 billion annually.

■ For every \$1 invested in workplace safety and health improvements, businesses realize a savings of \$4 - \$6.

■ Workplaces with strong safety and health systems experience 60 to 80 percent fewer lost workday injuries.

This is a tremendous savings for employers!

Manufacturing Strategies

Working collaboratively with the manufacturing industry must be a priority of government agencies that interact with employers if Michigan is to continue its legacy as a producer of high quality goods and services. This forum will be an important opportunity to work proactively with this important Michigan industry.

The Governor's Forum will bring together government, labor and business leaders who will share the message of increasing competitiveness through strong worker safety and health efforts. A morning session will provide a high-level, executive overview, followed by an

optional “best practices” workshop in the afternoon.

Forum Participants

■ Top government leadership, including **DLEG Director David Hollister**, to demonstrate support and to highlight available services and assistance.

■ Executives and CEOs from Michigan's “Best of the Best” companies will tell how safety and health pays at their workplace. The speakers are employers recognized by the MIOsha's Michigan Voluntary Protection Program or that partner with MIOsha.

■ **Brass Craft Manufacturing** from Brownstown Township was able to drop their workers compensation costs from \$279,000 to \$811 in just two years!

■ **E & E Manufacturing** of Plymouth implemented strategies that led to recognition as the only stamping plant to earn VPP Star status in the nation. E & E was committed not to move its business offshore, but instead to focus on achieving VPP Star—which also became the means to improving quality, productivity, and business focus. They not only saved the business in Michigan, they are now expanding and creating more jobs in their community.

■ **Ford Motor Company, Visteon Corporation**, and the **United Auto Workers Union (UAW)** have forged a landmark partnership with MIOsha to help create a safe and healthy work environment at the 17 Ford and eight Visteon facilities in Michigan. The partnership's primary goals are not only to reduce injuries and illnesses at each location, but also to create a proactive safety and health culture, and a non-adversarial relationship that stresses cooperation.

■ Labor leaders from across the state that have worked closely with employers to develop effective programs and know what the results mean for them. We anticipate participation from the United Automobile Workers and the AFL/CIO.

■ The afternoon session will provide best practices, lessons learned, and implementation steps and strategies for developing, organizing, and implementing a safety and health management system. Safety and health professionals from award winning companies and MIOsha staff will present the afternoon workshop.

Making a Difference

We are using this forum and several other tools to reinvigorate and reemphasize the critical importance of workplace safety in Michigan during this year—MIOsha's 30th Anniversary. Other tools will include “Take a Stand for Safety Day” and “Make a Difference Week” which are outlined in this issue on Page 3.

While the MIOsha Program can help employers and employees develop effective, cost-saving programs—it brings the message home clear and strong when it is given by the business and labor leaders who “make it happen” and “make a difference” every day.

Watch for our announcement on this important forum on our website at: www.michigan.gov/miosha.

Douglas J. Kalinowski

"Make a Difference" by Taking Responsibility

By: *Connie O'Neill, Director
Consultation Education and Training Division*

MIOSHA embraces a valiant mission of "protecting workers." Why do we do this? Because we all experience those moments when we hear about a fatality, amputation, or other disabling injury or illness—and with defiant determination, we "get back up" from the sadness and destruction of life and know we still have work to do.

Others may walk away, but MIOSHA won't, because life is just too precious. And that is why we exist—to reduce and eliminate workplace fatalities, injuries and illnesses.

MIOSHA is commemorating our 30th Anniversary with a spirit of determination to "Make a Difference" in the lives of Michigan workers. One of the ways we all can make a difference is to accept responsibility for our own safety and health, and those of our co-workers.

The Consultation Education and Training (CET) Division is organizing several significant events designed to provide a heightened awareness of workplace safety and health. We have learned from some of the "best of the best" companies that safety and health add value—to business, to the workplace, to our lives.

A very energetic focus group representing safety and health associations, labor organizations, safety councils, state government, business and industry, construction associations, and alliance partners came together on April 29th. They engaged in a lively discussion providing ideas, suggestions, and a commitment to use their resources to help MIOSHA "Make a Difference."

Below is a preview of coming attractions—please mark your calendars!

"Take a Stand Day" for Workplace Safety and Health—August 25th

In a historic first, MIOSHA will dedicate more than 125 professional staff to work cooperatively with employers to heighten awareness and address workplace safety and health issues. At your request, a MIOSHA professional will provide a special one-on-one consultation such as:

- Explain a specific MIOSHA rule.
- Conduct a safety of health hazard survey.
- Evaluate a safety and health system.
- Provide other technical assistance.

On "Take a Stand Day" there will be **no citations and no penalties** for participating workplaces. Call the CET Division at 517.322.1809 to request a consultation.

"Make a Difference Week" and "Stand Down for Safety and Health"—September 12th-16th

An Executive Proclamation by Governor Granholm will highlight the importance of worker safety and health, with September 16th design-

nated as a "Stand Down" for an accident-free day across Michigan.

The term "Stand Down" refers to a grassroots, community-based intervention program to recognize the need for worker safety and health through prevention efforts. During this week employers and employees are urged to spend each day of the week on special activities related to improving their safety and health management system. One of the primary purposes is to motivate employees to speak up when they see unsafe actions and conditions. Special days of emphasis include:

Monday, September 12 – Management Commitment and Leadership;

Tuesday, September 13 – Employee Involvement and Participation;

Wednesday, September 14 – Worksite Analysis and Hazard Prevention;

Thursday, September 15 – Safety and Health Training;

Friday, September 16 – Stand Down for Safety and Health.

A "Tool Box" containing specific ideas and activities is being developed for employers to utilize during "Make a Difference Week." These materials will also be available on MIOSHA's website in early August.

Michigan OSHA Walkthrough—Safety & Health Training CD-ROM

The "Michigan OSHA Walkthrough" CD-ROM is an interactive 22-module safety and health training program. It is being developed by e-Media Solutions in conjunction with the Michigan Economic Development Corporation (MEDC), MIOSHA, and the Lansing Area Safety Council. Private donors and sponsors are also partnering with the project to assure its success.

This program features S.A.M. (Safety Animated Machine) who entertains, as the learner is engaged in the training process. In November, the CD will be mailed to 30,000 Michigan manufacturers, free of charge.

Governor's Workplace Safety & Health Forum—November 3rd

This forum will continue the Governor's focus on "Manufacturing Matters in Michigan." Working collaboratively with the manufacturing industry must be a priority of government agencies that interact with employers if Michigan is to continue its legacy as a producer of high quality goods and services, and the forum provides MIOSHA this opportunity.

The forum will bring together government, labor and business leaders who will share the message of increasing competitiveness through strong worker safety and health efforts. A morning session will provide an executive overview,

featuring exemplary industry and labor Leaders from Michigan's "Best of the Best" companies.

The afternoon session will provide best practices, lessons learned, implementation steps and strategies for safety and health management systems. Safety and health professionals from award winning companies and MIOSHA staff will present the workshop. The forum will kick off the mailing of the free "Michigan OSHA Walkthrough" CD-ROM.

Things You Can Do Today

We encourage you to participate in MIOSHA's 30th Anniversary activities. You can help us promote this week by publishing this information in your organization's newsletter and on your website to increase participation.

You can also:

■ Go to www.michigan.gov/miosha under the "Spotlight" section and register to receive the "Michigan OSHA Walkthrough" CD.

■ Go to www.michigan.gov/mioshatraining to sign up for the new **CET ListServ**, and receive seminar information and announcements.

■ Contact the CET Division for additional information at 517.322.1809.

In concert with our partners, we plan to celebrate MIOSHA's 30th Anniversary in a way that will let workers know that together, we can all "Make a Difference." By taking responsibility for not only your own safety and health, but also that of your co-workers—this shared responsibility can create a positive safety and health culture. ■

"Take a Stand Day" for Workplace Safety and Health August 25th

In a historic first, MIOSHA will dedicate more than **125 professional staff** to work cooperatively with employers to heighten awareness and address workplace safety and health issues.

At your request, a MIOSHA professional will provide a special one-on-one consultation.

On "Take a Stand Day" there will be **no citations and no penalties** for participating workplaces. Please contact the **CET Division, 517.322.1809**, to request a consultation.

Congratulations IMCO Recycling!

IMCO Recycling's Coldwater North Plant Receives SHARP Award for Safety & Health Excellence

On March 9th, IMCO Recycling Inc.'s Coldwater North Plant, a subsidiary of Aleris International, Inc., has become the second facility in the state to receive the prestigious SHARP Award for an exemplary safety and health management system. The company's South Plant received the award on August 11, 2003.

The Michigan Occupational Safety and Health Administration (MIOSHA) established the Michigan Safety and Health Achievement Recognition Program (SHARP) Award to recognize employers that have achieved safety and health excellence far beyond their peers.

MIOSHA Director **Doug Kalinowski** presented the SHARP Award to the North Plant management team: Coldwater Maintenance Manager **Steve Lucas**, Production Manager **Bill Jackson**, Quality Systems Manager **Mike Fugate**, Shipping and Receiving Manager **Patty Quezada**, and Scrap Processing Manager **Mike Parker**, who accepted the award on behalf of all 120 Coldwater North Plant workers. MIOSHA representatives congratulated employees and management on their outstanding achievement.

"I am honored to present the second Michigan SHARP Award to the IMCO Coldwater North Plant—particularly since the South Plant received our first SHARP Award," said Kalinowski. "Your outstanding achievement of dramatically lower injury and illness rates than similar high-hazard workplaces—is a testament to corporate commit-

ment, management dedication and employee involvement."

Providing a Safe Environment

The Michigan SHARP Program targets small, high-hazard employers—to help them develop, implement and continuously improve the effectiveness of their workplace safety and health management system. SHARP provides an incentive for employers to emphasize accident and illness prevention by anticipating problems, rather than simply reacting to them.

"We are very proud of this achievement, which recognizes our commitment to providing a safe and healthy environment to everyone working at this site," said Gary Barnett, Michigan Operations Manager. "It is the result of teamwork between all parties, which has dramatically reduced our injuries and made this plant a safer workplace."

IMCO management believes that sound environmental, health and safety practices lead to excellent product quality, an efficient workforce and continuity of operations. The MIOSHA evaluation team found significant management commitment to carry out the safety goals formalized in the corporate mission statement.

Achieving an Exemplary Record

The North Plant's Standard Industrial Classification (SIC) Code is 3341 - *Secondary Smelting and Refining of Nonferrous Metals*, which is classified as a high-hazard industry. The plant's incidence rates are well below the national average for their SIC code. The Total Case Incidence Rate for the North Plant was 7.6 in 2002 and 4.7 in 2003—compared to 13.5 and 11.9, respectively, for the Bureau of Labor Statistics (BLS) industry average. The Total Days Away/Restricted Cases for the North Plant was 0.69 in 2002 and 3.4 in 2003—compared to 7.4 and 4.5, respectively, for the BLS industry average.

As part of their safety and health management system the North Plant has con-

ducted a Job Safety Analyses (JSA) for each process used in the plant. They have developed safe procedures for every operation and provided safety training for all procedures. They have also conducted a personal protective equipment hazard assessment for the plant to make sure workers are appropriately protected.

Over the past several years, employee involvement has become an integral component of the their safety and health program. CET consultants have worked with the company to enhance the functions of their safety committee, so that it is accessible to all employees and provides a mechanism for employees to raise safety concerns, and to have them addressed.

Self-inspections are also a vital component in the North Plant's safety and health management system. The North Plant Safety Committee performs monthly inspections to make sure each job function is being conducted safely. Along with the self-inspections, the company has also had CET consultants and private consultants perform safety inspections.

Recycling Top-Quality Metals

The IMCO Coldwater North Plant recycles more than 200 million pounds of aluminum scrap annually. On a daily basis, their workers handle several hundred thousand pounds of molten aluminum, reaching over 1400° F. The plant is also a registered TS16949 (the new Automotive Industry Quality Standard) and ISO14001 (the International Environmental Management System Standard) facility.

Principal customers of the IMCO aluminum operations include major aluminum companies, as well as automobile manufacturers and their suppliers. These customers use most of the metal recycled by the company to manufacture products for transportation, packaging, and construction—the three largest aluminum markets.

Aleris International, Inc. is one of the world's largest recyclers of aluminum and zinc and one of the leading manufacturers of aluminum sheet in the nation. The company has 29 production locations in the United States, Latin America and Europe, and employs approximately 3,200 employees. For more information about the company, please visit their web site at www.aleris.com. ■



IMCO Recycling Inc.'s Coldwater North Plant is the second facility in the state to receive the prestigious SHARP Award for an exemplary safety and health management system.

EaglePicher Lockout Fatality

MIOSHA Fines EaglePicher Automotive's Traverse City Plant \$100,800 for Lockout Fatality

Michigan Department of Labor & Economic Growth (DLEG) Director David C. Hollister announced on May 12th that the Michigan Occupational Safety and Health Administration (MIOSHA) cited EaglePicher Automotive's Traverse City plant following a fatal accident, with \$100,800 in proposed penalties for allegedly failing to protect employees from the unexpected startup of equipment.

On Feb. 10, 2005, two EaglePicher employees were working on a production line with a Computer Numeric Control (CNC) module system comprised of three dial machines with three robotic arms that move in and out to assemble parts at eight stations. While servicing a dial machine, electrician Rodney Windish was fatally injured when the equipment started up.

Lockout/Tagout Standard

"The unexpected start up of machines or equipment is extremely dangerous. This employer places its workers in harms way by not following the lockout standard," said Hollister. "CNC systems with tool change capabilities are designed to be serviced—without endangering workers. This tragic accident should not have happened."

MIOSHA Part 85, Control of Hazardous Energy Sources (Lockout/Tagout), is a comprehensive standard that provides detailed procedures for employers to protect their workers from the unexpected startup of equipment and/or the release of stored or uncontrolled energy from a machine, equipment, or process. The standard covers the servicing and maintenance of machines and equipment, and establishes minimum requirements for the control of hazardous energy.

Part 85 requires employers to establish an energy control program to ensure that before an employee performs any repair or maintenance—the energy source of the machine or equipment is isolated and shut off to prevent an accidental startup. At a minimum, the lockout/tagout program must consist of: energy control procedures, employee training, and periodic inspections.

The MIOSHA Inspection

The MIOSHA General Safety and Health Division began an inspection on Feb. 10th, in response to the fatal accident. During the investigation, the safety officer became aware of alleged lockout violations and other safety infractions. Although the company has a written lockout program, it did not enforce its own procedures.

The Traverse City EaglePicher plant has previous MIOSHA inspection history and was well aware of the requirements of the lockout/tagout standard. Their inspection history includes two recent scheduled inspections where the failure to comply with the lockout/tagout standard was cited: Inspection #304840838, issued 06/16/04; and Inspection #127198521, issued 08/09/02. The citations informed the company of the need to develop and implement an energy control policy and provide employee training.

Nonetheless, the MIOSHA investigation found that at the time of the accident the company had two alleged willful violations of the lockout/tagout standard: no enforcement of their lockout procedure, and inadequate training of their lockout procedure. The company also had two alleged serious violations of the standard: no annual inspection of their lockout procedure, and no retraining of employees when new machines/processes were added.

Summary of Violations

As a result of the accident investigation by the General Industry Safety and Health Division, two Willful, two Serious, one Repeat Serious, and two Other-than-Serious violations are recommended, with a total proposed penalty of \$100,800.

Accident Investigation Citations:

2 Willful Violations	\$ 78,400
2 Repeat Serious Violations	11,200
1 Repeat Serious Violation	11,200
2 Other-than-Serious Violations	0
Total Proposed Penalty	\$100,800

A willful violation is one committed with an intentional disregard of the requirements of MIOSHA regulations, or plain indifference to employee safety and health. A serious violation exists where there is a substantial probability that serious physical harm or death can result to an employee.

The company was cited for one repeat serious violation for failure to guard pinch points. They were also cited for two other-than-serious violations, with no monetary penalties. An other-than-serious violation is a condition that would



Electrician Rodney Windish was fatally injured when the equipment started up while he was servicing this Computer Numeric Control (CNC) module system.

probably not cause death or serious physical harm but would have a direct and immediate relationship to the safety and health of employees. The company has appealed the violations and penalties.

Help is Available

"Over the past five years, lack of compliance with the requirement for lockout/tagout programs has been the number one Serious violation in general industry each year," said MIOSHA Director Doug Kalinowski. "Our Consultation Education and Training (CET) Division can help employers protect their workers by establishing or strengthening their lockout/tagout programs."

Employers can contact the Consultation Education and Training Division at (517) 322-1809 for help with their lockout/tagout programs. Consultants are available to work with employers at their workplace. An excellent resource, the Lockout-Tagout Compliance Guide, SP-27, is also available in hard copy from the division.

In addition, you may wish to refer to the following articles which are available on our website from previous editions of the MIOSHA News: *Lock It Out- Every Time*, Summer 2001; *Minor Tool Changes and Adjustments: Is Lockout Required*, Fall 2002; *Lockout-Tagout: Not Just for Manufacturing Workplaces*, Spring 2003; *Lockout is a Workplace Priority: Case Studies Illustrate the Importance*, Spring 2005. ■

Ergonomic Intervention Case Study

Self-Elevating Vehicles Reduce Ergonomic Risks

By: Sheryl S. Ulin, Ph.D., CPE
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The University of Michigan
Center for Ergonomics

Background

This intervention study was conducted within the replacement parts division of a large automotive manufacturer to better understand the relationship between musculoskeletal injuries and exposure to ergonomic risk factors in the company's service parts distribution division. Distribution centers were organized in a two-tier system. Regional centers filled orders for replacement parts from the service departments of retail car dealers. National centers obtained replacement parts in bulk and replenished the regional centers as needed.

Review of injury records covering a three-year period revealed that overexertion injuries were common due to manual materials handling activities and manual packing tasks. Ergonomic evaluations were performed to measure ergonomic stresses for selected work activities suggested by the injury analysis. In addition, ergonomics professionals walked through the facilities to understand the ergonomic challenges and joint labor-management committees from each of the distribution centers identified their top 10 ergonomic concerns. These three sources of information were combined to identify opportunities for ergonomic intervention.

One part of the study focused on develop-

ing case studies to evaluate the effectiveness of ergonomic interventions in reducing exposures to risk factors. This article describes one of the case studies, a self-elevating vehicle. Additional case studies are described in Ulin and Keyserling, 2004. Another study goal was to develop a process for identifying specific work locations and activities where physical demands placed workers at increased risk of sustaining an overexertion injury and this is described elsewhere (Keyserling, et al., 2003).

Motivation for Intervention

Traditionally, workers within the distribution centers stocked and picked parts from racks and bins that ranged in height from floor level to approximately 140 inches. The vehicles used for transporting parts around the warehouse and for reaching the high bin locations have generally been ladder carts. The primary ergonomic concerns when stocking and picking using the ladder cart included:

- 1) Pushing the ladder cart to the various rack locations;
- 2) Shoulder elevation and extended reaches into the bins to reduce the actual number of steps climbed on the ladder; and
- 3) Climbing up and down on the equipment (50 percent of the time workers have objects in their hand while climbing). This was also a safety issue of increased risk of falling when climbing with only one hand on the ladder railing.

Description of Intervention

Ladder climbing, pushing carts and shoul-

der elevation can be eliminated or reduced through the use of a motorized vehicle capable of both horizontal and vertical movement. Five self-elevating vehicles were purchased for three different distribution centers. This vehicle was battery powered, traveled at a speed of 4.0 mph, and had a platform that raised to a vertical height of 161 inches. The original design of the vehicle was modified slightly by the manufacturer to provide a larger tray for storing product.

Summary of Intervention Effectiveness Improved Work Postures

A computerized posture analysis system was used to measure the amount of time awkward postures were observed while viewing videotapes of work tasks (Keyserling, 1986). Awkward postures were defined as a significant deviation from the neutral position of a joint. These analyses were completed before and after the interventions were implemented to compare the amount of time workers spent in awkward positions.

Torso Posture: The self-elevating vehicle was not expected to improve trunk posture since workers were still required to reach periodically to the lowest bin levels. However, small improvements were observed. Predominantly neutral torso postures were observed when using all vehicles. Severe torso flexion (forward bending) was observed in all cases when workers picked or stocked parts from the lower shelves and this was not affected by the introduction of the self-elevating vehicle. Severe torso flexion was also observed when workers positioned tickets on the sides of the ladder cart, and this was eliminated with the self-elevating vehicle.

Shoulder Posture: When using the powered ladder truck or ladder cart, non-neutral postures were observed 22 percent of the time. Awkward postures occurred when the arms were extended forward and when the shoulder was raised to pick or place objects in bins or to scan bar codes at overhead bin locations. The self-elevating vehicle raised workers vertically to the appropriate bin location for picking or stocking parts.

There was a decrease in shoulder elevation while using the self-elevating vehicle for picking and stockkeeping. Overall, the self-elevating vehicle reduced the amount of time the shoulder was in awkward postures to 12 percent of the time, roughly one-half of the duration of awkward posture with the ladder cart. Elevated arms were observed while loading the self-elevating vehicle; both while reaching to the back of the cart to retrieve items (not affected by the

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When using ladder carts to stock parts, workers were exposed to overexertion stresses and injuries.



The case study recommended the use of self-elevating vehicles, to eliminate or reduce ergonomic injuries.

Quick-Couplers: What's the Hazard?

*By: Richard Kawucha, Senior Safety Officer
Construction Safety and Health Division*

In May of 2004, MIOSHA investigated an accident in the metropolitan Detroit area, where a backhoe bucket was released unexpectedly from a quick-coupler. Federal OSHA has reported nationwide 16 incidents within the last six years involving the use of this type of equipment where excavator equipment unexpectedly released from quick-couplers. Of the 16 accidents reported by federal and state OSHA offices, nine resulted in employee fatalities.

Utility Services Authority Accident

The accident prompting a MIOSHA investigation occurred at a site where employees of Utility Services Authority, an excavation contractor, were installing water mains, gate valves, laterals, and related structures. An excavation for a manhole/gate valve/lateral had been dug and two employees entered that excavation to prepare to move the manhole assembly, align and weld the water main. The bucket had been detached to permit installation of the gate valve. The excavator operator reattached the bucket using a quick-coupler on the hydraulic excavator.

Before entering the excavation, one of the workers assisted the operator by throwing the safety pin into position. The excavator was swung over the gate valve and alloy chains were connected to the manhole with an employee inside the manhole. At that point, the bucket fell off the quick-coupler, striking the employee in the manhole and amputating his arm just below the elbow. The investigation revealed that the safety pin had been moved into position "before the bucket was fully seated" in the quick-coupler.

The quick-coupler manufacturer had identified this hazardous condition and had issued a "Safety Bulletin" detailing a solution that included new decals. Additionally it was noted that it was difficult to see if an alignment plate was properly aligned and the quick-coupler fully closed—due to the presence of hydraulic fluid and dirt, and the fact that the coupler and excavator boom were painted the same color.

Quick-Couplers

Typically quick-couplers are after-market devices that have been used on hydraulic excavators for several years and have steadily increased in popularity. They enable contractors to quickly make attachment changes on hydraulic excavators. Most quick-couplers have a lifting eye to use for lifting material. By removing the bucket, a large amount of weight is removed from the excavator and the lifting capacity of

the excavator is increased by the weight of the bucket.

Additionally, removal of the bucket improves the excavator operator's line of vision during lifting. Many contractors like to use a large bucket to do the bulk of the digging and then change to a smaller bucket for fine tuning and working in tight areas. The quick-couplers also allow the operator to change from a bucket attachment to various other attachments. The unexpected release of equipment in many cases is due to the failure of the quick-coupler to be properly engaged and locked.

Various manufacturers make quick-couplers, and have recognized the hazard of the bucket or other attachments being unexpectedly released. In most cases, they have provided users with a retrofit locking pin, which is manually inserted behind the front lever (stick pin) or rear lever (link pin) of the couplers, to prevent unintended releases.

Part 10, Lifting and Digging Equipment

MIOSHA Construction Safety Standard Part 10, addresses the installation, inspection and use of these attachments.

■ Rule 1006a (1) – The employer must comply with the manufacturer's specifications and limitations applicable to equipment, or the determination of a qualified engineer if specifications are not available.

■ Rule 1006a (4) – The employer must maintain excavation equipment and its accessories in a condition that will not endanger an operator or other employees.

■ Rule 1006a (7) – The employer must comply with the Power Crane and Shovel Association's, Mobile Hydraulic Crane standard No. 2, or the USA Standard Safety Code for Crawler, Locomotive, and Truck Cranes USAS B30.5, which require that manuals for equipment be available at the worksite.

■ Rule 1008a – The employer must provide training for the equipment operator on how to make daily inspections, and the capabilities of equipment and attachments.

■ Rule 1012a (2) – Requires frequent and periodic inspections for excavation equipment in regular service.

■ Rule 1012a (6) – Requires

that defects affecting safe operation be corrected before beginning or continuing the work.

Utility Services Authority – Citations

As a result of the MIOSHA inspection conducted by the Construction Safety and Health Division, the contractor in the accident discussed above was cited for four violations of MIOSHA standards:

■ Part 10, Rule 1006a(7) – The employer did not have available at the worksite operating manuals for the Daewoo excavator and the Central Fabricators hydraulic quick-latch coupler.

■ Part 10, Rule 1008a – The employer had not trained employees on the correct methods for ensuring that the attachments are properly installed and secured. Such training would include, knowing what the manufacturer's installation procedures are, what safety indicators are in place, how they function and how to assess the equipment to identify worn, inappropriate or missing parts.

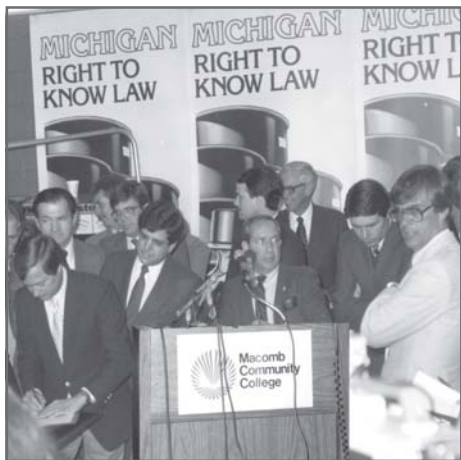
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A bucket attached to this Daewoo excavator, used by Utility Services Authority to install water mains, fell off the quick-coupler and amputated the arm of an employee.



During water main installation, this bucket fell off the quick-coupler, striking the employee in the manhole and amputating his arm just below the elbow.



Governor James Blanchard (Far left) signed the MIOSHA Right to Know legislation in 1986 at a special ceremony at Macomb Community College.

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ful work environments free of recognized hazards.”

Long History of Worker Safety & Health

Soon after Michigan became a state in 1837, the Legislature passed laws relating to labor, employees and safety. An 1837 act legalized unions with safety, health and welfare concerns of employees. In 1873, Michigan’s occupational health program began with a legislative mandate that the State Board of Health make sanitation investigations to identify conditions in places of employment, which might constitute health hazards to the public.

In 1936, a Bureau of Industrial Hygiene was created in the Michigan Department of Public Health to protect the health of Michigan workers, and became the health portion of the modern MIOSHA program.

The occupational safety program officially started in 1909 with legislation to provide a factory inspection program in the Department of Labor. Occupational safety rules and standards, including the guarding of equipment, were contained in the statute. In addition, the 1909 law established the first Michigan Department of Labor as a regulatory agency to enforce legislation relating to conditions of employment.

Significant Legislative Changes

There have been at least 18 amendments to the MIOSHA Act since its adoption in 1974. Some have been very minor, including one called

MIOSHA Commemorates

the “comma” amendment, while others brought significant change.

In 1986 Governor James Blanchard signed a bill creating **Public Act 80, the Right to Know Law (RTK)**, during a special ceremony at Macomb Community College. This law adopted and expanded the federal OSHA Hazard Communication rule to address growing concerns with chemical use in the workplace. At the time it was estimated that 25 million Americans, about one in four people, were potentially exposed to one or more of the nearly 8,000 hazardous chemicals in use at in American workplaces.

Act 80 called for labeling, creating material safety data sheets, written programs, and training for employees using hazardous chemicals at work. The goal was to create a communication stream to ensure that those working with chemicals had information on safe use and handling.

Because of the significance of this legislation, special free safety and health joint outreach training sessions were conducted around the state for more than a year. The MIOSHA Annual Report for Fiscal Year ‘86 reports 12,217 attendees at special programs, a 73 percent increase over the previous year. Much of this increase, no doubt, was due to the special RTK outreach.

PA. 105 of 1991 amended the MIOSH Act to provide for federally mandated increases in the MIOSHA civil penalties. The change resulted in seven-fold increases in penalty maximums, from \$1,000 to \$7,000 for most violations, and from \$10,000 to \$70,000 for willful violations, with a \$5,000 minimum.

To help address the anticipated concern this increase would create, the legislature included size, history, and “good faith” reductions. The good faith reduction required MIOSHA to recognize employers who were actively implementing safety and health programs by reducing the penalties.

As implemented by MIOSHA, the reductions range from 10 percent for an unwritten and partially implemented program up to 30 percent for a fully implemented program, which is a greater reduction than is available in federal program states. MIOSHA staff began assessing the effectiveness of safety and health programs during inspections and consultation surveys.

Following adoption of PA 105, the Safety Education and Training Division conducted a major outreach campaign. More than 2,000 people attended 24 free “Good Faith” seminars. The seminars were well received and began a focus on safety and health systems that continues today. The MIOSHA Strategic Plan for 2003-2008 includes an emphasis on working with employers to increase the number of employers

with effective and implemented safety and health management systems.

Another significant change included in PA 105 was the requirement that MIOSHA standards must be substantially similar to federal regulations, unless there was a clear and convincing need for Michigan to expand requirements.

Michigan Disability Prevention Study

In June 1993, results of the landmark Michigan Disability Prevention Study were announced at a special conference in Lansing. A three-year collaborative research project conducted by H. Allan Hunt, Ph.D., W.E. Upjohn Institute for Employment Research and Rochelle Habeck, Ph.D., Michigan State University, the study was primarily funded by the Michigan Department of Labor.

The study validated the premise that companies with proactive safety and health programs, return to work programs, along with an open, people oriented managerial style, reported significantly fewer injuries and disabilities and substantially lower workers’ compensation costs. An earlier pilot study showed at least a ten-fold difference in workers’ compensation costs between the best and worst companies performing the same work.

The findings of this study support MIOSHA’s focus of recognizing and encouraging voluntary efforts by employers to create and maintain safe work environments.

MIOSHA Reorganization

Reorganizing the MIOSHA program began with Governor Engler’s Executive Order 1996-1, which combined the occupational safety and health portions of the program into one agency within a newly created Michigan Department of Consumer and Industry Services. Following



Governor John Engler and Allan Hunt, Ph.D., released the landmark Michigan Disability Prevention Study in June 1993.

Three Decades of “Making a Difference”

consolidation, the safety and health consultation units were combined into a single Consultation Education and Training (CET) Division to provide more comprehensive voluntary assistance to employers and workers.

The second major portion of the reorganization was implemented in December 2003, following creation of the new Michigan Department of Labor and Economic Growth. The agency name changed from Bureau of Safety and Regulation to the Michigan Occupational Safety and Health Administration. Enforcement divisions were combined from four to two, a Construction Safety and Health Division, including the Asbestos Program; and the General Industry Safety and Health Division, which includes Employee Discrimination. Both divisions have safety and health field staff.

A new Management and Technical Services Division was created to include standards development, data collection and analysis, Freedom of Information, laboratory services, information technology and financial services. In May 2005, the CET Grant Program moved to this new division.

The result of the reorganization has been to improve consistency, enhance program and administrative efficiencies, and provide more seamless services. Since implementation, enforcement and consultation have worked cooperatively on significant outreach initiatives including truck bed liners, trenching, and asbestos.

MIOSHA Strategic Planning

Strategic planning has helped the program more clearly guide resources and focus activities. MIOSHA is in its second five-year plan, which includes three strategic goals that are consistent with federal OSHA.



In 1994, MIOSHA and Labor officials, Rick Mee, Karl Benghauser, Lowell Perry and Doug Earle, visited the construction of the Canadian Tunnel.

MIOSHA's strategic goals are:

- Improve workplace safety and health for workers, as evidenced by fewer hazards, reduced exposures, and fewer injuries, illnesses and fatalities.

- Promote employer and worker awareness of, commitment to, and involvement with safety and health to effect positive change in the workplace culture.

- Strengthen public confidence through continued excellence in the development and delivery of MIOSHA's programs and services.

MIOSHA uses a long-standing combination of enforcement, outreach, voluntary assistance, and innovative partnering with industry to meet program strategic plan goals.

MIOSHA Partnerships and Alliances

In March 2002, MIOSHA, UAW, Ford Motor Company, and Visteon Corporation signed historic partnerships agreements. The partnerships provided an opportunity to develop and implement alternatives to traditional enforcement and leverage resources through sharing of information.

These initial partnerships were renewed, and helped set a new standard for cooperative working relationships between MIOSHA and employers and employees which has led to recognition and implementation of formal partnership and alliance programs in MIOSHA.

Criminal Convictions under MIOSHA

The MIOSH Act provides for criminal sanctions if employers willfully violate MIOSHA rules or requirements, which cause the death of an employee.

The first criminal conviction related to a MIOSHA fatality occurred on January 29, 1996, when American Bumper and Manufacturing Company pled no contest to two counts of involuntary manslaughter. This plea resulted from a September 20, 1991, accident that killed two employees as they reached into a press during bumper production. The no contest pleas required the court to enter a judgment of conviction on both counts and treat the defendant as if a guilty plea had been entered.

Three additional criminal cases have been successfully prosecuted: Midland Environmental Services; J.A. Morrin Concrete Corporation and James Morrin, Jr.; and Lanzo Construction Company, Inc.

Program Leadership and the.. Future

The modern MIOSHA program has been fortunate to have dedicated and committed lead-



Tim Nichols, Secretary-Treasurer, Michigan State Building & Construction Trades Council, during MIOSHA's 15th Anniversary celebration in 1990.

ers from its inception. Prior to the 1996 consolidation, safety and health directors jointly led the program. On the safety side, the Bureau of Safety and Regulation was led by:

- Marshall Fiordelis,
- Marvin Walker, and
- Douglas Earle.

The health program, the Occupational Health Division, in the Michigan Department of Public Health was led by:

- Jim Barrett,
- Irving Davis,
- Flint Watt, and
- Doug Kalinowski.

Initial consolidation of the MIOSHA program in 1996 was led by Doug Earle, who continued to lead the new combined agency until his retirement in 2002. Doug Kalinowski, former deputy director, assumed responsibility for the directing the agency in 2002.

Today, as MIOSHA begins its fourth decade, it is a more mature organization with skills to continuously improve, problem solve, and keep up with changes in today's workplaces. The program uses a comprehensive approach with traditional enforcement significantly enhanced by the addition of strong voluntary programs, partnerships, and alliances. The MIOSHA web page has continually increased access to program information.

Internally, MIOSHA is using the 30th anniversary as an opportunity to take a step back to be sure we are doing the best we can to help protect working men and women in Michigan. We pledge to continue to improve and refine our programs to remain effective and relevant. MIOSHA's goal remains steadfastly unchanged: That workers go home whole and healthy each day of their working life. ■

MIO SHA 30-Year Milestones

Public Act 154 of 1974: The Michigan legislature created the modern Michigan Occupational Safety and Health Administration (MIO SHA), in order to better prevent workplace injuries, illnesses and fatalities in Michigan. P.A. 154 went into effect January 1, 1975, for private-sector employers, and July 1, 1975, for public-sector employers.

Public Act 368 of 1978: The Occupational Disease Reporting Law was passed that requires the reporting, by health care professionals and employers, of all known or suspected cases of occupational diseases.

February 1979: The Appeals Division was formed to represent the enforcement divisions in prehearing conferences and formal administrative hearings related to contested MIO SHA citations.

October 1979: The agency created the Safety Education and Training (SET) Grant program to fund statewide projects that emphasize prevention strategies to reduce injuries and illnesses. Each year nearly \$1,000,000 in grants are awarded.

Public Act 80 of 1986: The Michigan Right to Know law was enacted to provide information, training and labeling of toxic materials for employers and employees exposed to hazardous chemicals in the workplace.

Public Act 135 of 1986: The Asbestos Abatement Contractors Licensing Act created the Asbestos Program to control the serious health threat to workers and the public from asbestos exposure.

Public Act 440 of 1988: The Asbestos Workers Accreditation Act was enacted to require accreditation and training for asbestos removal workers and providers.

Public Act 105 of 1991: This act amended Act 154 and provided for a sevenfold increase in MIO SHA civil penalties to the level identical with federal OSHA penalties.

June 1993: The groundbreaking research “Disability Prevention Among Michigan Employers” (Hunt Study) shows that strong safety and health programs, open culture, and return-to-work programs significantly reduce serious on-the-job injuries and work-comp costs.

January 29, 1996: American Bumper & Manufacturing Company pled no contest to two counts of involuntary manslaughter for the deaths of two employees working on a press in Ionia. This was MIO SHA’s first criminal conviction.

February 1996: Executive Order 1996-1 transferred occupational health responsibilities from the Department of Public Health to the Bureau of Safety and Regulation (BSR), consolidating all workplace safety and health programs.

December 1997: MIO SHA launched a public website (www.michigan.gov/miosha) to provide better access to our customers. Today the website offers a vast array of safety and health material, as well as interactive capabilities for filing complaints and other forms on line.

January 1, 1998: The Michigan Voluntary Protection Program (MVPP) was established to recognize companies with outstanding safety and health management systems. In March 2002, the Michigan Safety and Health Achievement Recognition Program (MSHARP) was created for small employers. To date, the MIO SHA program has recognized 18 MVPP sites and two SHARP sites.

August 1998: MIO SHA established its first partnerships—with the Michigan Road Builders Association and the Michigan Chapter Associated General Contractors—to improve worker safety and health. Establishing partnerships and alliances is a key MIO SHA strategy to help protect Michigan workers.

September 2, 1999: MIO SHA announced a historic \$7 million Settlement Agreement with Ford Motor Company and the UAW for a catastrophic 1998 explosion that killed six workers. The agreement enabled Ford to provide a safe working environment nationwide and represents a landmark approach to resolving complex safety issues.

October 1, 1999: With significant stakeholder involvement, MIO SHA developed a five-year Strategic Plan to guide our resource strategies for worker protection. The plan focuses on three strategic goals that are consistent with those of federal OSHA. The first plan covered Fiscal Years 1999 - 2003; and the second plan covers Fiscal Years 2004 - 2008. The plan provides clear benchmarks for evaluating performance.

November 1, 2000: Owner Edmund Woods and Midland Environmental Services, Inc., pled guilty to attempted involuntary manslaughter for a fatal explosion. This case is unprecedented because it is the first criminal case in Michigan history where an owner was held criminally responsible for a workplace fatality.

October 10, 2002: James Morrin, Jr., Foreman for J.A. Concrete Construction Company, Toledo, Ohio, was sentenced to 360 days in jail and three years probation. This is the first time in Michigan history that an employer served time in jail for a workplace fatality.

December 8, 2003: The name of the agency was changed from the Bureau of Safety and Regulation to the Michigan Occupational Safety and Health Administration. It was also reorganized to streamline agency functions and provide our customers with greater consistency, uniformity and efficiency.

October 21, 2004: In Oakland County’s 6th Circuit Court, Lanzo Construction Company was found guilty for a 1999 workplace fatality. This conviction is unprecedented in that this case involved a full criminal trial.

March 31, 2005: Since the start of the modern MIO SHA program, fatalities have dropped significantly—from 115 in 1977 to 44 in 2004. Injury and illness rates also dropped—from 9.6 in 1975 to 6.3 in 2003. A key goal of the MIO SHA Strategic Plan is to help employers continue to reduce workplace injuries, illnesses and fatalities.

STATE OF MICHIGAN



Executive
Office

Jennifer M. Granholm
Governor

CERTIFICATE OF PROCLAMATION

On behalf of the citizens of Michigan, I, Governor Jennifer M. Granholm hereby proclaim the week of September 12, 2005, and September 16, 2005, as

MIOSHA Make a Difference Week and Stand Down for Safety & Health Day

Whereas, The Michigan Occupational Safety and Health Administration (MIOSHA) was established in 1975 to provide Michigan's working men and women with a safe and healthy work environment and is part of the Michigan Department of Labor and Economic Growth; and,

Whereas, MIOSHA safety and health officers and consultation staff visit more than 12,000 Michigan workplaces each year to save lives, to prevent injuries and illnesses, and to protect the safety and health of our workers; and,

Whereas, Those enforcement and outreach efforts benefit more than 1,000,000 workers each year; and,

Whereas, Protecting workers is not a burdensome cost of doing business and employers with a strong safety and health management system report not only reductions in injuries and illnesses, but also very positive bottom line benefits: lower workers' compensation costs, increased productivity, increased employee morale, lower absenteeism, and lower employee turnover; and,

Whereas, During "Make a Difference Week," employers throughout Michigan are urged to spend each day on special activities to improve their work environment through: Management Commitment and Leadership; Employee Involvement and Participation; Worksite Analysis and Hazard Prevention; Safety and Health Training; and Stand Down for Safety and Health; and now therefore be it,

Resolved, That I, Jennifer M. Granholm, Governor of the State of Michigan do hereby proclaim the week of September 12, 2005, as MIOSHA Make a Difference Week and September 16, 2005, as Stand Down for Safety & Health Day in Michigan and I encourage all Michigan employers and employees to place special emphasis on workplace safety and health during this commemoration and throughout the year.




Jennifer M. Granholm
Governor

CET Awards

MIOSHA recognizes the safety and health achievements of Michigan employers and employees through CET Awards, which are based on excellent safety and health performance.



During their recertification celebration, the Quinnesec Mill management team distributed VPP hats to employees during shift change.

International Paper - Quinnesec Mill

On March 17th, International Paper's Quinnesec Mill celebrated renewal of their **MVPP Star Award**, the state's highest workplace safety and health award.

"This continued excellence, for six years, on the part of management and employees at the Quinnesec Mill is simply outstanding," said MIOSHA Director **Doug Kalinowski**.

Mill Manager **George Obernesser** and Safety Leader **Jim Sutton** recognized all Quinnesec Mill employees for their continued excellence in worker safety and health.

"We have a history of operating in a safe manner and that remains a top priority, every day, for International Paper and the Quinnesec Mill," said Obernesser.

They have made several changes and improvements since the initial evaluation, including: behavioral based safety systems, ongoing ergonomic training, safety accountability and hazard recognition training.

Quinnesec Mill is a state-of-the-art facility that manufactures bleached hardwood kraft pulp and high-quality coated printing paper for magazines and catalogs.

Continental Aluminum - New Hudson

On April 26th, the Continental Aluminum New Hudson plant received the **Bronze Award**, which recognizes leadership and commitment to workplace safety and health resulting in significant improvement of their MIOSHA record.

"We are pleased to present Continental Aluminum's employees and management with this award that recognizes your dedication to workplace safety and health," said MIOSHA Director **Doug Kalinowski**.

Kalinowski presented the award to Continental Aluminum President **Bill Altgilbers**, Safety & Quality Manager **Henry Szybowicz**, and the **Continental Aluminum Safety Committee**.

"Safety is the ultimate priority for Continental Aluminum. We assure all of our employees that we will provide a safe and healthy work environment—and we have substantial programs in place to achieve this goal," said Altgilbers.

Continental Aluminum operates one of the most advanced secondary aluminum smelters in the United States. They have concentrated their improvement efforts in behavior-based safety training and analysis; accident investigations and implemented corrective actions; ongoing safety training and monthly health and safety audits.



All Continental Aluminum New Hudson plant employees celebrated receiving the Bronze Award from the MIOSHA CET Division for an outstanding safety and health record.



(Back) David Gedritis, VP of Operations; Fred Keller, President/CEO; Paul Rugg, Plant Manager; Kelley Losey, Manager of EHS Dept; (Front) Doug Kalinowski, MIOSHA Director; Kristine Nietering, Safety Specialist; Kathy Bolhous, VP/Product Group Manager.

Cascade Engineering - Container Plant

On June 17th, Cascade Engineering's Industrial Solutions Container Plant received the **Ergonomic Success Award** from MIOSHA. This is the first Ergonomic Success Award issued to an employer since April 2004.

The CET Division issues the award to employers for instituting ergonomic improvements and substantially reducing traumatic strain and sprain injuries and cumulative trauma disorder illnesses.

The ergonomic improvements at the facility have significantly reduced the number of repetitive motion injuries for its employees—from 10 in 2003 to zero in 2004.

"We applaud the Cascade Container Plant's ergonomic accomplishments. They have made an exemplary commitment to control ergonomic risk factors in their work environment," said DLEG Director **David C. Hollister**.

MIOSHA Director **Doug Kalinowski** presented the award to President and CEO **Fred Keller**, Plant Manager **Paul Rugg**, and Safety Specialist **Kristine Nietering**.

"It is an honor today to be recognized by MIOSHA. Our company's greatest asset is truly our people—and their safety is first and foremost," said Keller. "We look forward to continuing our relationship with MIOSHA."

Education & Training Calendar

Date	Course Location	MIOSHA Trainer Contact	Phone
August			
11	Lockout and Machine Guarding Howell	Karen Odell Janie Willsmore	517.546.3920
23	Educational Services Grand Rapids	Rob Stacy Brian Cole	616.331.7180
25	Machine Guarding, JSA and Operator Training, Lockout/Tagout Port Huron	Linda Long Terri Johns	810.985.1869
25	Fundamentals of Industrial Hygiene Holland	Dave Humenick Brian Cole	616.331.7180
September			
6, 13, 20	Safety and Health Administrator Course Muskegon	Rob Stacy Brian Cole	616.331.7180
7	Fall Protection Training Lansing	Tom Swindlehurst Pete Anderson	517.371.1550
8	Fall Protection Training Saginaw	Tom Swindlehurst Pete Anderson	517.371.1550
14	MVPP & MSHARP Workshop Kalamazoo	Doug Kimmel Suzy Carter/Sandy Long	866.423.7233
14 & 21	MIOSHA 10-Hour for Construction Southfield	Pat Sullivan Ed Ratzenberger	248.557.7010
15, 22, 29	Safety and Health Administrator Course Howell	Karen Odell Janie Willsmore	517.546.3920
21, 28, 10/5	Safety and Health Administrator Course Battle Creek	Quenten Yoder Connie Dawe	269.965.4134
22	When MIOSHA Visits Holland	Rob Stacy Brian Cole	616.331.7180
27	Excavations and Mobile Equipment Hazards Port Huron	Patrick Sullivan Kenneth M. Schultz	810.989.5788
27	Fall Protection Training Traverse City	Tom Swindlehurst Pete Anderson	517.371.1550
27 & 28	Two-Day Mechanical Power Press Seminar Clarkston	Richard Zdeb Peggy Desrosier	248.620.2534
28	Confined Space for Service Contractors Grand Rapids	Debra Johnson Elleena Chrzan	616.234.3382
October			
12	Supervisor's Role in Safety & Health Clarkston	Richard Zdeb Peggy DesRosier	248.620.2534
12 & 13	MIOSHA 10-Hour for Construction Warren	Patrick Sullivan Staff	586.498.4100
18	Fall Protection for the Roofing Industry Port Huron	Pat Sullivan Kenneth M. Schultz	810.989.5788
19	When MIOSHA Visits Warren	Jennifer Clark-Denson Holger Ekanger	586.498.4100
25	Falls and the Top 25 Serious Violations in Construction Port Huron	Pat Sullivan Kenneth M. Schultz	810.989.5788

Co-sponsors of CET seminars may charge a nominal fee to cover the costs of equipment rental, room rental, and lunch/refreshment charges. For the latest seminar information check our website, which is updated the first of every month: www.michigan.gov/miosha.

Construction Safety Standards Commission

Labor

Mr. Tom Boensch**

Mr. Andrew Lang

Mr. Larry Redfearn

Vacant

Management

Mr. Peter Strazdas

Ms. Cheryl Hughes

Mr. Edward Tanzini

Mr. Timothy Wise

Public Member

Dr. Kris Mattila*

General Industry Safety Standards Commission

Labor

Mr. James Baker**

Dr. Tycho Fredericks

Mr. John Pettinga

Vacant

Management

Mr. Timothy J. Koury

Mr. Thomas Pytlik*

Mr. Michael L. Eckert

Mr. George A. Reamer

Public Member

Ms. Geri Johnson

Occupational Health Standards Commission

Labor

Ms. Margaret Vissman

Dr. G. Robert DeYoung**

Ms. Cynthia Holland

Mr. Michael McCabe

Management

Mr. Richard Olson*

Mr. Robert DeBruyn

Mr. Michael Lucas

Mr. Douglas Williams

Public Member

Dr. Darryl Lesoski

*Chair **Vice Chair

Standards Update

Making a Difference Through Rule Improvement

Part 18 - Overhead and Gantry Cranes - 2002 Revisions Clarified

In April 2002, MIOSHA made significant revisions to General Industry Standard Part 18, Overhead and Gantry Cranes. After this revision, general industry companies and MIOSHA enforcement staff expressed concern in applying the new provisions.

MIOSHA quickly brought these concerns to the General Industry Safety Standards Commission. This Commission, along with the Director of the Michigan Department of Labor & Economic Growth (DLEG), has the legal authority to change MIOSHA rules.

Effective May 13, 2005, an amendment with greater clarification of the 2002 revisions has been incorporated into Part 18, Overhead and Gantry Cranes. In addition to amending the standard for greater clarity, MIOSHA is offering an enforcement guideline that will provide even more help to employers and employees as they apply the standard to their particular location and equipment.

The revisions include the following:

Certification - Rule 1821 clarifies what certification is necessary for cranes of different ages.

Markings - Rule 1822(2) clarifies the proper crane markings relative to service use.

Inspections - Rule 1872 clarifies crane inspections based in part on usage and classification.

Making a difference and developing better standards is not a speedy process, rather it is a careful and deliberate one that is designed to have cautious reviews from experts in the subject, as well as several avenues for public input.

Following is a listing of the important benchmarks.

- 04/2002** Major revisions were made to Part 18 after two years of work by the eight-member Advisory Committee.
- 06/2003** The General Industry Safety Standards Commission began a review of concerns with the 2002 revisions.
- 09/2003** The Commission, along with guidance and advice from Advisory Committee representatives, researched solutions.
- 11/2003** Approval was granted to open the standard for clarification, with no intent to add greater protective provisions.
- 01/2004** A draft amendment of clarifying revisions was informally approved by the Governor's designees.
- 05/2004** A Public Hearing was held in Lansing for public comments on the draft amendment.
- 07/2004** The 2002 Advisory Committee was reconvened to consider public hearing comments.
- 10/2004** The Advisory Committee completed a targeted study to assure the most appropriate revisions.
- 03/2005** The revised amendment was moved forward for approval.
- 04/2005** The draft amendment went to the Michigan Legislature for comments and approval.
- 04/2005** The Department of Labor & Economic Growth officially adopted the amendment.
- 05/2005** On May 13th the revised Part 18 standard became effective.

MIOSHA has printed the revised standard and notified all parties on our mailing list that copies are available. It's also available on our website at, www.michigan.gov/mioshastandards.

Michigan's 2002 revisions of Part 18 have been praised for the added protection provided through operator competency and equipment inspection. Along with the clarifying improvements completed this year, this standard will hopefully "Make a Difference" in helping to keep crane operations safe.

State Office of Administrative Hearings and Rules

On January 14, 2005, Governor Granholm signed Executive Order 2005-1, creating the **State Office of Administrative Hearings and Rules (SOAHR)**, to provide services related to administrative hearing functions and for the processing and review of administrative rules. Functions performed by the **Office of Regulatory Reform (ORR)** are transferred to SOAHR.

To contact any of the Commissioners or the Standards Section, please call 517.322.1845.

Status of Michigan Standards Promulgation

(As of July 11, 2005)

Occupational Safety Standards

General Industry

Part 08.	Portable Fire Extinguishers	Informal rules submitted to SOAHR
Part 17.	Refuse Packer Units	Approved by Commission for review
Part 18.	Overhead & Gantry Cranes	Final, effective 5/13/05
Part 19.	Crawler, Locomotive, & Truck Cranes	At Advisory Committee
Part 20.	Underhung Cranes & Monorail Systems	Approved by Commission for review
Part 58.	Vehicle Mounted Elevating & Rotating Platforms (Joint w/CS 32)	At Advisory Committee
Part 62.	Plastic Molding	Approved by Commission for review
Part 79.	Diving Operations	Approved by Commission for review
Pending	Ergonomics (Joint)	At Advisory Committee
Pending	Telecommunications (Joint)	Informal rules submitted to SOAHR

Construction

Part 01.	General Rules	Approved by Commission for review
Part 07.	Welding & Cutting	Final, effective 1/20/05
Part 08.	Handling & Storage of Materials	Final, effective 11/16/04
Part 12.	Scaffolds & Scaffold Platforms	Approved by Commission for review
Part 16.	Power Transmission & Distribution	Formal rules submitted to SOAHR
Part 26.	Steel Erection	Withdrawn
Part 30.	Telecommunications (Joint)	Informal rules submitted to SOAHR
Part 31.	Diving Operations	Approved by Commission for review
Part 32.	Aerial Work Platforms (Joint w/GI 58)	At Advisory Committee
Pending	Communication Tower Erection	Approved by Commission for review

Occupational Health Standards

General Industry

Part 451.	Respiratory Protection	Final, effective 4/12/05
Part 504.	Diving Operations	Approved by Commission for review
Part 520.	General Ventilation	Formal rules submitted to SOAHR
Part 526.	Open Surface Tanks	Approved by Commission for review
Part 528.	Spray Finishing Operations	Approved by Commission for review
Part 529.	Welding, Cutting & Brazing	Approved by Commission for review
Pending	Diisocyanates	Approved by Commission for review
Pending	Ergonomics (Joint)	At Advisory Committee
Pending	Latex	Approved by Commission for review

Construction

Part 665.	Underground Construction	Final, effective 12/24/04
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The MIOSHA Standards Section assists in the promulgation of Michigan occupational safety and health standards. To receive a copy of the MIOSHA Standards Index (updated March 2005) or for single copies and sets of safety and health standards, please contact the Standards Section at 517.322.1845, or at www.michigan.gov/mioshastandards.

RFR Request for Rulemaking
 SOAHR State Office of Admin, Hearings and Rules
 LSB Legislative Services Bureau
 JCAR Joint Committee on Administrative Rules

MIOSHA Focus: Residential Construction

Residential construction is an area of the construction industry that we believe would benefit from an increased focus by MIOSHA.

Many residential projects do not get inspected due to the transient nature of such work—and because they are small and in remote areas. In addition, the contractors involved are often small operators and do not have the resources to hire health and safety staff, and have little expertise in health and safety themselves.

However, when we review MIOSHA accident and fatality investigation activity, it becomes clear there are certainly hazards that need to be addressed.

In an effort to show a greater presence in this area, the MIOSHA Construction Safety and Health Division (CSHD) will be focusing more of their resources in conducting inspections in residential construction this season. This residential construction focus will include single-family dwellings and multiple family units (e.g., duplexes, condominiums, apartment buildings).

This residential construction focus is in progress at this time and will continue at least until the end of the calendar year 2005, at which time MIOSHA will assess the results.

All employers, including residential builders, are encouraged to contact the CSHD at 517.322.1856 if they have questions regarding worksite health and safety or compliance issues. The MIOSHA Consultation, Education and Training (CET) Division provides training and on-site audit services at the employers request, free of charge. CET can be contacted at 517.322.1809.

V a r i a n c e s

Published July 29, 2005

Following are requests for variances and variances granted from occupational safety standards in accordance with rules of the Department of Labor & Economic Growth, Part 12, Variances (R408.22201 to 408.22251).

Variances Requested Construction

Part and rule number from which variance is requested

Part 10 - Lifting & Digging Equipment: Rule R408.41005 a(2), Rule 1005 a(2); Reference ANSI Standard B30.5 "Mobile and Locomotive Cranes". 1994 Edition; Section 5-3.2.1.2b

Summary of employer's request for variance

To allow employer to rig certain loads to the load line of a crane above the overhaul weight in accordance with certain stipulations.

Name and address of employer

John E. Green Company

Location for which variance is requested

GM Metal Fab Facility, Flint
GM V-6 Engine Facility, Flint
GM Power Train Facility, Warren

Name and address of employer

Lawrence - Green Fire Protection

Location for which variance is requested

GM Power Train Facility, Warren

Part and rule number from which variance is requested

Part 32 - Aerial Lift Platforms: Rule R408.43209, Rule 3209 (8), Rule 3209 (8)(b), and Rule 3209 (9)

Summary of employer's request for variance

To allow employer to firmly secure scaffold planks to the top of the intermediate rail of the guardrail system for use as a work platform provided certain stipulations are adhered to.

Name and address of employer

Dee Cramer Inc.

Location for which variance is requested

Detroit YMCA, Detroit

Name and address of employer

Douglas Steel Erection Company

Location for which variance is requested

University of Michigan, Ann Arbor
General Motors L6 Engine Plant, Flint

Name and address of employer

Eugenio Painting Company

Location for which variance is requested

Southeastern High School Renovation/Addition, Detroit

Name and address of employer

John E. Green Company

Location for which variance is requested

General Motors GM Metal Fab Facility, Flint
General Motors V6 Global Engine Plant, Flint
GM Power Train Facility, Warren

Name and address of employer

Lansing Electric Motors, Inc.

Location for which variance is requested

General Motors Paint Facility, Delta Township

Name and address of employer

Lawrence - Green Fire Protection Co.

Location for which variance is requested

G M Warren Transmission Plant, X22F 6 Speed FWD Transmission

Name and address of employer

Motor City Electric Co.

Location for which variance is requested

U of M Cardiovascular Center, Ann Arbor

Name and address of employer

Superior Electric Great Lakes Company

Location for which variance is requested

General Motors Paint Facility, Delta Township

Name and address of employer

Swan Electric Company Inc.

Location for which variance is requested

General Motors Paint Facility, Delta Township

Name and address of employer

Whaley Steel Corp.

Location for which variance is requested

Freedom Hill Amphitheater Project, Sterling Heights

Variances Granted Construction

Part and rule number from which variance is requested

Part 32 - Aerial Work Platforms: R408.43209, Rule 3209, Rule 3209 (8)(b), and Rule 3209 (9)

Summary of employer's request for variance

To allow employer to firmly secure a scaffold plank to the top of the intermediate rail of the guardrail system of an aerial lift for limited use as a work platform provided certain stipulations are adhered to.

Name and address of employer

Lake State Insulation, Inc.

Location for which variance is requested

General Motors Paint Facility, Body Shop, General Assembly, Trestles, & Tank Farm, Delta Township

Name and address of employer

W. J. O'Neil Company

Location for which variance is requested

University of Michigan Cardiovascular Center Project, Ann Arbor

Name and address of employer

Superior Industrial Insulation Co.

Location for which variance is requested

GM Paint Facility, Delta Township

MIOSHA News Quiz

Topic: Stamp Out Amputations

By: Ruth Hindman, Supervisor
Consultation Education and Training Division

Questions

True or False

1. A point of operation guard must prevent employee exposure to the point of operation during the hazardous portion of the machine cycle.
2. The point of operation is a point on a machine where work is performed.
3. A hazard is an unsafe condition or procedure that could result in an injury.
4. The employee should not report a recognized hazard to their supervisor.
5. An employee can choose whether or not to use personal protective equipment.
6. When a guard or other safety device is removed because it gets in the way on some jobs, you don't have to replace it until you know the boss is coming.
7. Lockout is only required by maintenance workers.
8. Lockout is not required when removing a guard for a short period of time.
9. According to MIOSHA standards, a power press requires a point of operation guard or device for all production operations.
10. When using a vertical band saw, a sliding blade guard shall be adjusted to within 1/4-inch of the work piece.

Multiple Choice

11. Pinch point is an area at which:
 - A. It is possible to be caught between the moving parts of a machine.
 - B. An area at which it is possible to be caught between the moving and stationary parts of a machine.
 - C. An area at which it is possible to be caught between material and any part of a machine.
 - D. All of the above.
12. An employee shall not operate a machine or equipment until:
 - A. Trained in the operating procedures.
 - B. Trained in the hazards and safeguards.
 - C. Assigned to do so by the employer.
 - D. All of the above.
13. Lockout:
 - A. Is the control of energy sources during servicing and/or maintenance of machinery and equipment.
 - B. Only applies to electrical and mechanical power sources.
 - C. Should only be performed by authorized personnel.

D. A and C.

14. Machine controls:
 - A. Shall be equipped with a on/off switch.
 - B. Start controls shall be guarded to prevent accidental activation.
 - C. Shall be equipped with a stop device within reach of the operator station.
 - D. All of the above.
15. Power transmission parts must be guarded:
 - A. Except the backside is allowed to be open.
 - B. When within employee contact or 7 feet or less from the floor or platform.
 - C. With the exception of gears, sprockets and chain drives.
 - D. All of the above.

Answers

1. **True** - A point of operation guard or device shall be designed and constructed, to prevent the machine operator exposed to the hazard from having any part of his or her body in the hazard area during the operating cycle. R. 408.10034(3)
2. **True** - The definition of "point of operation" states it means the point on a machine where work is being performed. R. 408.1004(3)
3. **True** - The definition of a "hazard" means an unsafe condition or procedure which could result in an injury. R. 401.1003(7)
4. **False** - The employee shall report to the supervisor any recognized hazard. R. 401.1012(b)
5. **False** - An employee shall use all of the personal protective equipment provided by the employer. R. 401.13310(2)
6. **False** - An employee shall not remove a guard or other safety device except for authorized servicing purposes. The guard or other safety device shall be replaced or equivalent guarding provided before the machine or equipment is returned to normal operation. R. 401.10012(d)
7. **False** - Lockout applies to all employees in, on, or around machines, equipment, or process during repair, maintenance, and associated activities from injury due to unexpected/unintended motion or start-up. R. 408.18501(1)
8. **False** - The employer shall establish a program consisting of energy control procedures, employee training to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, start up or release of stored energy could cause injury, the machine or equipment shall be isolated from the energy source, and rendered inoperative. R. 1910.147(c)(1)
9. **True** - An employer shall provide and insure the usage of point of operation guards or devices on every production job. R. 408.12461 (1)
10. **True** - The sliding blade guard shall be kept to within 1/4 inch of the work piece. R. 408.12732(4)
11. **D** - All of the above. The definition of pinch point means a point at which it is possible to be caught between the moving parts of a machine, or between the moving and stationary parts of a machine or between material and any part of a machine. R. 408.10004(2)
12. **D** - All the above. The employer shall provide training to each newly assigned employee regarding the operating procedures, hazards, and safeguards of the job. R. 408.10011(A)
13. **D** - Lockout is: The placement of a lockout device on any energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lock-out device is removed. Authorized is: A person who locks out a machine or equipment in order to perform service or maintenance on machine or equipment. R. 1910.147 (C) and R.1910.147 (B) under definition of "Authorized employee."
14. **D** - All the above. Powered electrical equipment shall have an on-off switch. An actuating machine control for a powered machine shall be to prevent accidental activation. R. 408.10033. (1)(2)(4)
15. **B** - Power transmission, which is 7 feet or less above the floor or platform and which is exposed to contact shall be guarded. R. 408.10727. (1)

Receive MIOSHA CET Division Announcements Via Email

The MIOSHA Consultation Education and Training (CET) Division has established an electronic mailing list (LISTSERV) to inform subscribers of upcoming training programs and announcements.

If you would like to be added to this list, please visit the following website: www.michigan.gov/mioshatraining.

Select "Subscribe to Receive Training and CET Division Announcements via Email" and follow the instructions.

If you need further assistance, please contact the CET Division at: 517.322.1809.

Office of the State Employer Alliance

On March 17th, MIOSHA and the Office of the State Employer-Employee Health Management Division (EHM) signed a formal alliance establishing a collaborative relationship to improve workplace safety and health in state government.

"We are proud to participate in this alliance as the model department to require a safety and health management system for each of our

DLEG agencies," said DLEG Director David C. Hollister. "This alliance offers state government a unique opportunity to provide state workers with a level of safety and health protection that goes beyond the minimum requirements."

All parties are forming the alliance to use their collective expertise to promote safety leadership and to provide support for creating a culture of continual workplace safety and health improvement. The alliance is designed to include management, supervision, labor, and employees—working together to create a safer and healthier workplace.

The alliance was signed by: **David C. Hollister**, DLEG Director; **David H. Fink**, Office of the State Employer Director; **Doug Kalinowski**, MIOSHA Director; and **Ken Swisher**, Employee Health Management Director. Attending the event were most of the state department safety and health coordinators.

"This Alliance is a great example of teamwork between state

departments in pursuing our goal of excellence in state government," said Fink. "One more effort in which everyone wins."

"The MIOSHA program is dedicated to working with employers, both public and private sector—to find innovative ways to enhance workplace safety and health," said Kalinowski. "Through alliances, MIOSHA can offer employers a voluntary, cooperative relationship to eliminate serious hazards and achieve a high level of safety and health."

The key goals of this alliance include: promote enhanced awareness of worker safety and health to state department directors; develop education and training opportunities; share EHM summary accident data with all department safety and health coordinators to demonstrate the success of implementing effective safety and health management systems; and disseminate safety and health information through print and electronic media, email, and links from MIOSHA and OSE websites.

"The EHM Division of OSE has worked well with MIOSHA," said Swisher. "We are very pleased to formalize and enhance that working relationship with the signing of this Alliance." ■



Ken Swisher, EHM Director; Steve Monet, EHM Safety Manager; Connie O'Neill, CET Director; David H. Fink, OSE Director; David C. Hollister, DLEG Director; and Doug Kalinowski, MIOSHA Director.

Michigan Society for Infection Control Alliance

On April 14th, MIOSHA and the Michigan Society for Infection Control (MSIC) signed a formal alliance to protect the safety and health of Michigan's healthcare workers.

The signing cements a 20-year relationship between the two organizations that focuses on their shared missions to protect healthcare workers against occupational exposure to infectious diseases and injuries, particularly from sharp devices needed to care for patients.

Sue Lloyd, MT(ASCP), CHSP, CIC, President, MSIC; **Linda Scott**, RN, BSN, CIC, Advocacy Chair, MSIC; **Doug Kalinowski**, Director, MIOSHA Program; and **Connie O'Neill**, Director, MIOSHA Consultation Education and Training (CET) Division signed the alliance during the MSIC Spring Education Conference in Lansing.

"MSIC is excited to formally recognize the strong foundation of our relationship with MIOSHA. This partnership demonstrates a clear commitment to make Michigan's healthcare industry safer," said Lloyd. "We envision an even greater opportunity to foster communication and education through this alliance."

With more than 400 members, the Michigan Society for Infection Control strives to actively promote public health and improve healthcare quality and safety in Michigan by developing a

knowledge network, providing educational resources, and advocating science-based practices.

"We are proud to sign this alliance, which places a high priority on protecting Michigan's healthcare workers—who have dedicated their careers to saving lives," said Kalinowski.

The goals of this alliance include, but are not limited to:

- Sharing resources for prevention and education initiatives to improve worker safety and health;
- Developing innovative solutions for the hazards inherent in healthcare settings;
- Providing better access to job safety and health information;
- Utilizing MSIC's extensive network to communicate changes in safety regulations issued by MIOSHA; and
- Strengthening the cooperative relationship between MIOSHA and MSIC.

The Society's members advocate for reducing infectious and non-infectious injuries and

illnesses for healthcare workers through: implementing effective policies and procedures, providing safety-engineered products, networking with direct care givers, and assuring provision of immunizations, just to name a few. To learn more about MSIC and its activities, you can visit their website at www.msic-online.org, or contact their main office at 248.693.3474. ■



Sue Lloyd, MT(ASCP), CHSP, CIC, President, MSIC; Linda Scott, RN, BSN, CIC, Advocacy Chair, MSIC; Doug Kalinowski, Director, MIOSHA Program; and Connie O'Neill, Director, CET Division.

Ergonomic Case Study

Cont. from Page 6

intervention) and when stacking items on the self-elevating vehicle.

Whole Body Activity Analysis

Workers were at increased risk of experiencing a "fall from elevation" accident when climbing, descending, or standing on ladders. The risk of a fall may increase if the worker cannot use both hands to grasp the ladder rails. An analysis of work activities showed that during stocking and picking operations with the ladder cart and powered ladder truck, workers spent approximately one-third of the time working on ladders. This was reduced to zero with the self-elevating vehicle. When using the ladder cart for stocking and picking, workers spent six percent of the time pushing the ladder cart. This was reduced to zero with the self-elevating vehicle.

Worker Interviews

The following findings were obtained from interviews with three workers who used the powered ladder truck or ladder cart and five employees who used the self-elevating vehicle.

- Workers identified climbing up and down ladders and picking from the lowest shelves as the most physically demanding part of their job.

- There was a modestly significant decrease ($p < 0.10$) in worker evaluations of torso postural strain when using the self-elevating vehicle.

- There was a non-significant decrease in worker evaluations of pushing/pulling demands and shoulder postural strain when using the self-elevating vehicle.

Implementation Hurdles/Fine Tuning

The self-elevating vehicle was customized by workers because the original design did not have room for their tickets or plastic bags. Additional worker criticisms were that the self-elevating vehicle moved too slowly horizontally and that the part tray was too small. During self-elevating vehicle testing, the picking/stockkeeping sequence was not modified to minimize vehicle horizontal movement. There are opportunities to optimize horizontal and vertical movement that corresponds to the picking sequence when the workers use the self-elevating vehicle.

The use of the self-elevating vehicle for stocking and picking eliminated ladder climbing and pushing ladder carts, and reduced the amount of walking, reaching above shoulder height, and torso forward bending. Consequently, both mobility issues and safety concerns associated with climbing, walking for extended periods, and pushing ladder carts were addressed.

In addition, workers felt that the self-elevating vehicle reduced the physical demands associated with their job. The self-elevating vehicle should provide benefits to all workers who

pick or stock from high locations in a variety of industries and should also accommodate persons with ladder climbing or walking limitations. To address the major worker criticism, new algorithms that minimize horizontal travel distance between the pick/stock locations can be developed and used once all workers in a specific area are using the self-elevating vehicle.

Acknowledgement

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Quick-Couplers

Cont. from Page 7

- Part 10, Rule 1012a(1) – The employer had not performed a thorough annual inspection of the Daewoo excavator or the hydraulic quick-latch coupler.

- Part 10, Rule 1024a(5) – The warning signage for the swinging counterweight on the Daewoo excavator did not meet MIOSHA requirements.

An employer has the right to appeal a citation within 15 working days of receipt of the citation. The case discussed above was appealed by the employer.

Safety Measures to Prevent Accidents

Employers using hydraulic excavators with quick-coupling devices can protect employees from the unintended release of attachments by incorporating the following safety measures:

- Inspect all quick-couplers to determine if they are subject to unexpected release hazards. Determine whether a manually installed locking pin and installation procedures have been provided by the manufacturer.

- If necessary, obtain and install retrofits recommended by the manufacturer, including positive locking pins and other devices that need to be manually installed. On a used excavator, contact the quick-coupler manufacturer to see if there are any Technical Service Bulletin's that

relate to the quick-coupler.

- Consider the use of newer models of quick-couplers that have been specifically designed to prevent the unintended release of attachments.

- Follow the manufacturer's recommendations for maintenance and inspection of the quick-coupler to prevent a malfunction that could cause an unintended release of the attachments. Include the inspection of the quick-coupler in the excavator's annual inspection [ref. MIOSHA Part 10, Rule 1012a (1)].

- Follow the manufacturer's installation procedures and recommendations on testing quick-coupler and attachment connections every time an attachment is made.

- Train employees in: the proper use of quick-couplers; making visual inspections; procedures for engaging attachments; and methods for testing connections.

- Require employees to use the proper procedures for engaging excavation attachments and incorporating the procedures into the company's safety and health program.

Conclusions

Based upon experience, manufacturers have retrofitted existing quick-couplers, designed new and improved quick-coupler systems, and developed safe use and operating procedures. These corrective actions have significantly decreased the probability of a bucket or

other attachment being unintentionally released from a quick-coupler.

However, unintended releases of buckets and other attachments from quick-couplers continue as evidenced by the accident in the metropolitan Detroit area and OSHA accident data. Unintended releases appear to continue because not all employers/contractors who use quick-couplers are aware of the hazard and the manufacturers' corrective actions; some users fail to retrofit the quick-coupler with locking pins; and some users have insufficient training on installation and testing procedures associated with the use of such couplers.

The National Institute for Occupational Safety and Health (NIOSH) has studied the hazards associated with hydraulic excavators and has issued DHHS Publication No. 2004-107 entitled, "Preventing Injuries When Working with Hydraulic Excavators and Backhoe Loaders." This publication addresses the hazard of excavator equipment being unintentionally detached from a quick-coupler mechanism and can be viewed at; www.cdc.gov/niosh/docs/wp-solutions/2004-107.

MIOSHA Part 10, Lifting and Digging Equipment can be viewed at; www.michigan.gov/mioshastandards, click on Construction. Additional information on quick-couplers can be viewed at; www.osha.gov/dts/shib/shib082604.html. ■

How To Contact MIOSHA

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Michigan Occupational Safety and Health Administration
Director: Douglas J. Kalinowski

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